



What about Randy?

- Top rated speaker for over 25 years
- 2004, 2005, 2006, 2007, 2008, 2009, 2010 Accounting Today 100 Most Influential in Accounting for seven years
- 30+ years of technology experience
- Author of articles on Technology including a monthly column in CPATechnology Advisor
- Published author of five books
- From Hutchinson, KS
- randy@k2e.com or randy@nmgi.com
- 620-664-6000 x 112



What about NMGI?



- **CRN top 100** emerging technology company nationally – MSPMentor top 100 company
- **NetStore** – Internet backup and off-site data storage
- **NetRescue** – Business continuity appliance for servers, desktops and virtual machines
- **NetCare** - Remote Managed services - (Maintenance, Remediation & Alerting)
- **NetSecure** – Firewall management and Content Filtering
- **Technology and Business Continuity consulting**
 - CPA Firm Technology Assessments
 - Paperless
 - Accounting Software Selection
- **Cloud Services**
 - Server and desktop hosting
 - Private label hosted Exchange and SharePoint Services
 - Hosted VOIP phone installation
- Traditional and virtual server installation
- Microsoft Gold / Hewlett Packard Elite/ SonicWall Gold (vendor certified)



What about NMGI?



- **Announced June 7 the general availability of national CPA support services**
- **NetHosting** – Cloud services
- **HR** – Business and personal goal achievement and management track training
- **BC/DR** – Full documentation and backup services
- **email2**– Secure email
- **NetStore and NetRescue** – Backup Appliances and over the internet



Top Technologies – A Baker's Dozen

- Control and Use of Mobile Devices
- Information Security
- Data Retention Policies and Structure
- Remote Access
- Staff and Management Training
- Process Documentation and improvements
- Saving and Making Money w/Technology
- Technology Cost Controls
- Budget Processes
- Project Management & deployment
- Spreadsheet Management
- Overall Data Proliferation and Control
- Privacy Policies and Compliance

AICPA survey 2/15/2011



Big Ideas of 2011

- Windows upgrades
- New browsers on HTML5
- Apps
- Sandboxes
- Higher speed communication and cabling
- Smart Devices
- HD Video and IPTV



Adobe Acrobat X is Out

- The new Reader X and Acrobat X products promise better security, better collaboration, and easier PDF reading.
- The free [Adobe Reader X](#) will offer a new Protected Mode to sandbox, or isolate, JavaScript code, 3D rendering, and image parsing in order to better secure PDFs. **DOWNLOAD NOW!**
- Reader X will offer Sticky Notes and Highlighter tools for people who want to add comments to a PDF.
- Mobile versions of Reader X for Android, Windows Phone 7, and the BlackBerry Tablet operating systems. Notice, no iPhone.



Versions of X

- [Acrobat X Standard](#) offers a basic set of new features, including the ability to convert a PDF to a Word document or Excel spreadsheet and integration with Microsoft's SharePoint. *The Standard edition will retail for \$299 and offer an upgrade price of \$139.*
- [Acrobat X Pro](#), which provides additional features. PDF Portfolios will let you combine a variety of different types of files to create a single portfolio with customized themes, layouts, and logos. The new Actions feature will allow you to automate time-consuming tasks and share those with other people. *The Pro version is expected to cost \$449 with a \$199 upgrade fee.*
- [Acrobat X Suite](#) will team up Adobe Acrobat X Pro, Adobe Photoshop CS5, Adobe Captivate 5, Adobe Presenter 7, Adobe LiveCycle Designer ES2, and Adobe Media Encoder CS5. *The suite will carry a price tag of \$1,199 with a \$799 upgrade cost.*
- Adobe is also unveiling a couple of new [cloud-based services](#)



Adobe FormsCentral

- Quickly create online forms and surveys
- Create online invitations, event registration, and research surveys
- Collect feedback in real time
- Reach people on any device with a web browser



iTunes signs Beatles

(More important to some than others ;-)

More than 450,000 albums and 2 million individual songs were sold on iTunes worldwide, according to Apple, since the Beatles catalog was made available Tuesday (Nov. 16). In U.S. the best-selling album was "Abbey Road" and best-selling song was "Here Comes the Sun."

Oh, well.



Fujitsu ScanSnap S1100

- Create a searchable PDF file with the touch of a button
- Scan paper as small as an inch up to 34 inches long
- Scan to an editable Word and Excel file
- Create searchable keywords with a highlighter
- Cross-platform compatibility for PC and Mac
- Business card scanning software
- Supports scanning a plastic ID card
- USB powered
- 12 Ounces, 7.5 Seconds/page, \$199



HP ePrint

- Allows you to instantly send photos and documents directly to your printer using any device with e-mail capabilities. Requires an Internet connection to the printer.
- Much like Apple's iPhone, the HP Photosmart Plus e-All-in-One lets you download free apps—HP Print Apps—and navigate them with similar touch functionality to access everything from movie listings and tickets to USA Today.
- Example B210a -\$109, A910a -\$199



MacBook Air

- Inspired by iPad, the new *MacBook Air* features all-flash storage, full Multi-Touch support, a long-lasting battery, and a high-resolution display.
- \$1000- \$2000
With all the goodies, of course.



New Momentus® XT Solid State Hybrid Drives

- Adaptive Memory™ technology
- 80% faster than traditional 7200 RPM drives
- Boots within seconds of a laptop with SSD
- Works in any standard laptop with any OS
- Seagate 5-year Limited Warranty



- 250GB - \$117
- 320GB - \$126
- 500GB - \$180

Ostendo CRVD Curved Display

The first curved desktop monitor.



- 43" curved display. Works with existing graphics cards, 2880 x 900
- \$6499, shipped 9/14/2010. Available from CRVD.com

New Personal Network Technology



Femtocells Finally Arrive!

- A **femtocell** is a small cellular [base station](#), typically designed for use in a home or small business
- It connects to the service provider's network via broadband (such as [DSL](#) or [cable](#)); current designs typically support 2 to 4 active mobile phones in a residential setting, and 8 to 16 active mobile phones in enterprise settings

Example of Femtocell

- AT&T 3G MicroCell acts like a mini cellular tower in your home or small business environment
- It connects to AT&T's network via your existing broadband Internet service
- Designed to support up to four simultaneous users
- \$150 one time, all other AT&T cell, calls and message fees apply



MIMO and Cellular in Ceiling

A cellular DAS antenna and 6 MIMO wireless LAN antennas are collocated with DAS redistribution equipment and a wireless access point in this Oberon ceiling enclosure.



InfoWorld Predictions for 2011

- Sometimes a cliché works best - "the year of the tablet"
- Ellison gives Benioff the ultimate comeuppance
- IBM or HP will buy SAP
- Enterprises get flashy (memory)
- WikiLeaks goes on
- Cyberwarfare becomes reality
- Startups will remove the roadblocks to the cloud
- Going Social goes mainstream
- Congress will take a tech-related legislation break
- Ballmer leaves Microsoft
- Missed
 - Risk Based Analysis
 - Internal controls

What Else?

www.technologybestpractices.com

- Check out Fijitsu new portable scanner.
- HP's new e-printers for printing from your iPad or other Smart Device is cool.
- The Mac Air is a beautiful example of the thin but fast and powerful notebooks coming out.
- 3D displays may be the next big thing, but honestly, who wants to see their financial statement in 3D???



User Workstations, to include New Windows OS, new IE 9, Apps!

NEW WINDOWS AND BROWSER

Windows 8

- At the 2011 Consumer Electronics Show in Las Vegas, Microsoft announced that it would be including support for *system-on-a-chip (SoC)* and *mobile ARM processors* in its next version of the Windows operating system. So in the [history of Windows](#), what's next?
- Let's call it Windows 8 for the moment.
- We anticipate that "Windows 8" will arrive in late 2012.
 - However, Microsoft is under pressure to accelerate the process to meet the demand for a more Google Android, or Apple iOS lean OS that works well with Smart Devices.

Windows 8 - ARM, SoC?

- ARM, Advanced RISC Machine, is a Reduced Instruction Set Computer chip. Widely used for Smart Phones, Netbooks, Pads and Tablets. Small and powerful, the OS would reside on the chip, or possibly a neighboring ROM chip.
- System-on-a-chip or system on chip (SoC or SOC) refers to integrating all components of a computer or other electronic system into a single integrated circuit (chip).

Some Current Rumors on Windows 8

- Windows 8 will be only x64 and x128, positioning Windows 7 as the last 32-bit OS.
- Three potential form factors related to "lap PCs" and tablets, workhorse PCs, and family hub PCs.
- The lap PC will have tablet features, the workhorse PC is the traditional desktop or laptop system, and the *family hub PC is your next evolution of Windows Media Center.*



Some Current Rumors on Windows 8

- A new feature called "My PC Knows Me," will use a proximity sensor to detect your movements in a room and, for example, wake up your PC.
- When you sit at your system, it will scan your face and log you in.
- Impossible? No, Microsoft will be integrating Xbox Kinect functionality into tomorrow's computers.
- This will include support for Gestures.



Some Current Rumors on Windows 8

- One rumored change for Windows 8 is in the updating of key kernel OS files through cloud servers.
- Microsoft could ensure systems are updated, without reboot, with the enhanced files.
- Would help Microsoft prevent piracy.
- In the event a connection with the Internet is broken, backup kernel files will be used until the Internet connection can be reestablished.



Some Current Rumors on Windows 8

- With the recent emphasis on Office 365, the productivity-oriented successor to Microsoft's Business Productivity Online Standard Suite (BPOS) cloud server suite that integrates with Windows Small Business Server 2011 Essentials (code-named Aurora), it is logical to imagine tight integration with Windows 8 as well.
- Some rumors even hint that Microsoft may call its next operating system "*Windows 365*," which would further support the speculation that *the desktop will be linked to its cloud offering.*



Is There An App for That?

- Another new feature in Windows will be the equivalent of [Apple's Mac App Store](#) or the iTunes store.
- Microsoft has already been working on this with Windows 7 and Vista in the form of the [Games for Windows Marketplace](#), which is installed in PCs via Windows Update.
- As Channels and Markets change, everyone sees the future in an App, versus an Application approach.



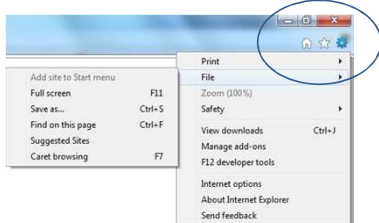
IE 9

- IE9 may be faster than any other browser currently available.
- Internet Explorer 9 lets you turn your favorite websites into launch icons on your taskbar.
- Jumplist allows you to Pin a site such as Twitter, Facebook, or other page, to your taskbar. Then right-click on the icon to see a selection of shortcuts for that site. Right-click on Facebook, for example, and you have quick access to your Newsfeed, Messages, Events and Friends list.
- Twitter's jumplist options include the ability to write a new tweet, see your direct messages, mentions, favorites and search.
- **[Update this before final. IE9RC out 2/10/11]**



IE 9 - New layout is simplified.

- More Chrome like, but unfair to use that analogy.



IE9 Concerns

- Need to download and test now. IE 9 Release Candidate came out in February 2011.
- Test against your company web site to make sure it is compatible, if not, fix it!
- Test against the sites your company uses most often. If failures occur, notify the web master for that site, or your company representative for that vendor.

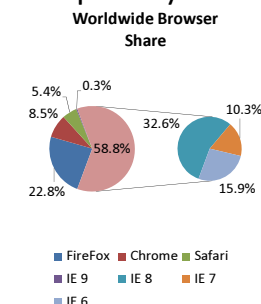
Internet Explorer 9

- NOT Ready for Production however, test systems only!
- Heavy support for HTML 5 (Bye bye Flash?)
– Chrome, Firefox and Safari all doing HTML 5



Browser War Continues – 500M people have switched in past 3 years

- IE 9 beta – not stable at this time – IE market share was 90% in 2003, below 50% for first time in Sept 2010
- New Firefox with HTML 5 support
- New Chrome Browser – currently 70M users
- Opera has 140K users in Uzbekistan
- Sync features common
- Watch upgrades during tax season – probable timing – April 12



Intel's Sandy Bridge Technology

- Sandy Bridge, formerly Geshner, is the codename for the processor microarchitecture developed by Intel as the successor to Nehalem. Based on the 32 nm process, development began in 2005 at Intel's Israel Development Center (IDC) in Haifa.
- Processors based on this architecture are marketed as *the second generation of Core i* processors - announced on January 3, 2011.

Sandy Bridge Has Issues

What You Should Know

1. This is **not a CPU problem**. Sandy Bridge Core i5 and Core i7 processors remain fine; only currently shipping P67 and H67 motherboards on which the 6 Series chipset is located are affected by the glitch.
2. It's **SATA-related**. The Cougar Point problem specifically affects the motherboard's SATA controller, causing onboard SATA ports to degrade over time and possibly reduce performance of hard drives, optical drives, and other SATA-driven devices.
3. Not all SATA is affected. Newer and faster 6-Gbps SATA ports are fine—the problem occurs **only in slower 3-Gbps ports**. Of course, desktop Sandy Bridge motherboards have more 3-Gbps ports than 6-Gbps ports (the spec provides for four of the former and two of the latter).

Sandy Bridge Has Issues

What You Should Know

4. Not everyone will notice this issue, at least right away. The error is reportedly a relatively hard-to-notice one that **crops up only after very long periods of usage** (Intel estimates a speed degradation of 6 percent over a three-year lifespan), so ordinary users probably won't notice anything yet. (Intel's hardware partners discovered it when doing intensive stress-testing on Sandy Bridge hardware.)
5. **Desktop PCs are hardest hit.** Because Intel has shipped out a lot more Sandy Bridge desktop hardware than laptop hardware, most users of mobile systems will probably not be affected. They're protected in another way, too: In a statement, Intel explained that because the 6-Gbps SATA ports are not affected, and few notebooks use more than those, *"many notebooks will never even have a chance of seeing the issue."*



Sandy Bridge Has Issues

What You Should Know

6. You can't fix things yourself. Because the problem is related to integrated hardware itself, a simple driver installation or component swap-out won't do the trick. **You'll need new hardware.** Contact Intel's support department, or support for the manufacturer of your motherboard or computer for information about how to obtain a refund or replacement.
7. Don't expect solutions immediately. Intel has stopped production on its 6 Series Chipset hardware, and will resume shipping fixed hardware in April 2011. **Intel is not, however, officially recalling all affected Sandy Bridge products.**



Sandbox (Computer Security)

- In computer security, a sandbox is a security mechanism for separating running programs. It is often used to execute untested code, or untrusted programs from unverified third-parties, suppliers and untrusted users.
- The sandbox typically provides a tightly-controlled set of resources for guest programs to run in, such as scratch space on disk and memory. Network access, the ability to inspect the host system or read from input devices are usually disallowed or heavily restricted. In this sense, sandboxes are a specific example of virtualization.



Example of Sand Boxing

- Applets are self-contained programs that run in a virtual machine or scripting language interpreter that does the sandboxing.
- In application streaming schemes, the applet is downloaded onto a remote client and may begin executing before it arrives in its entirety.
- Applets are common in web browsers, which use the mechanism to safely execute untrusted code embedded in web pages.
- Three common applet implementations—Adobe Flash, Java applets and Silverlight—provide (at minimum) a rectangular window with which to interact with the user and some persistent storage (at the user's permission).



Example of Sand Boxing

- A jail is a set of resource limits imposed on programs by the operating system kernel.
- It can include I/O bandwidth caps, disk quotas, network access restrictions and a restricted filesystem namespace.
- Jails are most commonly used in virtual hosting.



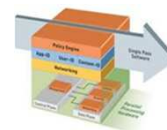
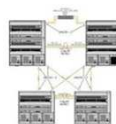
Sand Box Technology Bottom Line

- Expect to see more of this approach.
- Particularly as more core applications, like Accounting, Payroll, etc., become more Applet like.
- Applications, such as Adobe Reader X and others will integrate Sand Box techniques to provide additional layers of security.
- Sand Boxing is a good thing!



IT Training Still Important

- Sites like Global Knowledge, www.globalknowledge.com offers a full suite of virtual training from high-level network implementation and support to rolling out Windows 7 and Microsoft Office.
- Sites like www.lynda.com are excellent for those looking for hands-on help.



For your Data Center, Cabling, Switches, Firewalls, Backup options and more...

NETWORK UPDATE



Time to Upgrade!

- Windows Server® 2008 R2 and Windows® 7 SP1 operating systems include networking enhancements that make it easier for users to get connected and stay connected regardless of their location or type of network.
- These enhancements include tools to maintain security and network reliability.
- Here are just three new features that make upgrading your LAN servers and functions work better...



New Networking Features To Take Advantage Of

- **DirectAccess**, which enables users to access an enterprise network without the extra step of initiating a virtual private network (VPN) connection.
- **VPN Reconnect**, which automatically reestablishes a VPN connection as soon as Internet connectivity is restored, saving users from reentering their credentials and re-creating the VPN connection.
- **BranchCache™**, which enables updated content from file and Web servers on a wide area network (WAN) to be cached on computers at a local branch office, improving application response time and reducing WAN traffic.



DirectAccess

- DirectAccess allows domain member computers running Windows 7 Enterprise, Windows 7 Ultimate, or Windows Server 2008 R2 to connect to enterprise network resources whenever they are connected to the Internet.
- A user on a DirectAccess client computer that is connected to the Internet has virtually the same experience as if connected directly to an organization's private network.
- DirectAccess allows IT professionals to manage mobile computers outside of the office.



DirectAccess

- Each time a DirectAccess client computer connects to the Internet, before the user logs on, DirectAccess establishes a bi-directional connection to the enterprise network that allows the client computer to stay current with company policies and receive software updates.
- Talk with your IT Professional about this feature and if your organization has it turned on.



Is the Internet Filling Up? Now is the Time for IPv6

- Internet Protocol version 6 (IPv6) provides the end-to-end addressing necessary for connectivity to the enterprise network. As IPv4 is running out of IP addresses to issue, you have the option of transitioning your Internet gateways to support IPv6 as well as IPv4.
- In the meantime, Windows Server 2008 R2 provides options via Direct Access and other protocol management tools.



Tools to Help Transition in Windows 2008 R2

- Organizations that are not yet ready to fully deploy native IPv6 can use the ISATAP IPv6 transition technology to access IPv4 resources on the enterprise network.
- DirectAccess clients can use the Teredo and 6to4 IPv6 transition technologies to connect across the IPv4 Internet. IPv6 or IPv6 transition technology traffic must be available on the DirectAccess server and allowed to pass through the perimeter network firewall.
- Yes, this is real techie stuff, but *the important point is to have your IT people prepare your networks to support IPv6 quickly.*



What is VPN Reconnect?

- VPN Reconnect is a new feature of Routing and Remote Access Services (RRAS) that provides users with seamless and consistent VPN connectivity, automatically reestablishing a VPN when users temporarily lose their Internet connections.
- Users who connect using wireless mobile broadband will benefit most.
- With VPN Reconnect, Windows 7 automatically reestablishes active VPN connections when Internet connectivity is reestablished.



What does BranchCache do?

- With BranchCache, content from Web and file servers on the enterprise WAN is stored on the local branch office network to improve response time and reduce WAN traffic.
- When another client at the same branch requests the same content, the client can access it directly from the local network without obtaining the entire file across the WAN.
- Content requested by a client at the branch office is subsequently cached to a local server (called the *Hosted Cache server*), where it is made available to other local clients.
- For many applications such as Accounting, Paperless, Tax Research, Banking, and Medical, this can reduce network traffic and substantially improve data retrieval time.



Time to Update Network Routers?

- Cisco is the worldwide leader with 61% revenue market share and 36% port market share
- HP is in second place in revenue market share with 10%, which is up from 9% revenue market share last quarter;
- NETGEAR claims second place in port market share with 12%, followed closely by 3Com and D-Link, both with 11%

PRNewswire November 2010



Newer Than New Tech!

- Expect Servers to roll out this year with dual 10GB Ethernet on board.
- Vendors such as Force10 are rolling out 40GB routers aggregating multiple 10GB lines in. The new devices will have up to 48 10GB ports and up to 6 40GB ports.
- Yes, that is very fast!!!



Updating Switches and Routers 10GB vs. 40GB

- Replace Data Center Switches and Routers with at least 10GB Switches.
- Cisco, Juniper, HP (3Com acquired by HP in 2010) among top contenders.
- Dell and Juniper are also excellent options for SMB and SME class companies.
- Pricing is coming down as a saturated market drives competition.
- Pick a single vendor and stay with them?



Larger Organizations Should Consider 40GB Routers

- The rapid growth in bandwidth consumption is straining networks everywhere.
- Currently, WDM transport networks are facing bandwidth exhaustion as 10GB channels are filling up.
- With 100GE still in its early stages, bandwidth providers are turning to 40GB transport solutions to instantly quadruple their remaining 10GB channel capacity.



WDM – HUH? Wavelength-Division Multiplexing

- Wavelength-division multiplexing (WDM) is a technology which multiplexes a number of optical carrier signals onto a single optical fiber by using different wavelengths (colors) of laser light.
- This technique enables bidirectional communications over one strand of fiber, as well as multiplication of capacity.



In English, Please!

- 40GB Routers use WDM to aggregate multiple 10GB transmissions to create a much wider and faster communications channel.
- When placed in the Data Center (Computer Room) 40GB Routers reduce data bottlenecks where users are battling over the same resources such as SANs, Internet Gateway or Virtual Servers and Workstations.



Serial RapidIO - One More To Watch

- Only protocol to address wireless base-band processing
- Small packet headers, simple routing architecture, low power, handled in hardware
- 20 Gbps, 100ns switch latency, system latency ~ 1 parsec, processor overhead cost \$4 VS. 10GB Ethernet at
- 10 Gbps, 200ns switch latency, system latency > 10 millisec, processor overhead cost \$10+

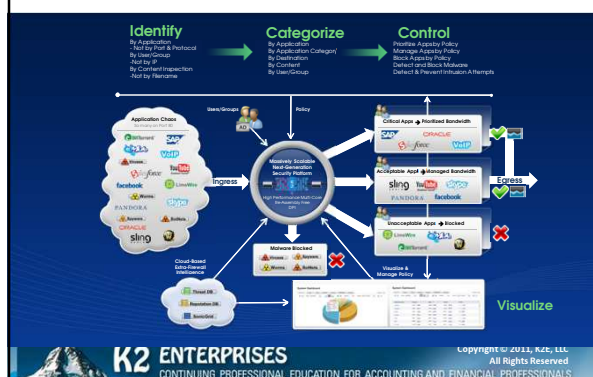


Next Generation Firewalls

- #1: Application Awareness and Full Stack Visibility
- #2: Integrated Rather Than Co-Located IPS
- #3: Extra-Firewall Intelligence
- #4: Standard First-Generation Firewall Capabilities
- #5: Support “bump in the wire” Deployments



Next Generation Firewall



CCCA and NEC regulation changes

- Communications Cable & Connectivity Association (CCCA) and National Electrical Code regulation changes are pending.
- Here is what you should know;
 - No open cable trays
 - Relief from Plenum cabling on power and signaling
 - Additional services added: fiber, fire alarms, security, cable TV
 - Emergency Power Off standards changed



The TIA 1179 Standard Impacts the Healthcare Industry

- **TIA-1179** specifies requirements for telecommunications infrastructure for healthcare facilities (e.g. hospitals, clinics).
- It specifies cabling, cabling topologies, and cabling distances. Additionally, pathways and spaces (e.g. sizing and location), and ancillary requirements are addressed.
- Telecommunications cabling specified by the new standard is intended to support a wide range of healthcare facilities and systems.



TIA-568-C.0 Cabling Standard

- Generic Telecommunications Cabling for Customer Premises (2009) TIA-568-C.0 serves as a base for new standards.
- Consolidates TIA 568 into one standard.
- Replaces the March 2000 guidelines.
- 250 page standard document in four parts:
 - 1. TIA 568-C.0 Generic Telecommunications Cabling (targeted to users/designers/ installers).
 - 2. TIA 568-C.1 Commercial Building (Targeted to users/designers/ installers).
 - 3. 568-C.2 Copper Cabling Components (Targeted to manufacturers).
 - 4. TIA-568-C.3 Optical Cabling Components



Server Storage

- **DAS**
 - Digital storage system directly attached to a server or workstation, directly to a computer through a host bus adapter (HBA)
- **NAS**
 - Networked appliances which contain one or more hard drives
- **SAN**
 - A dedicated storage network which provides access to consolidated, block level storage. A SAN alone does not provide the "file" abstraction, only block-level operations. Available in iSCSI and Fiber Channel.



Backup Options

- While standard large organization backup options remain;
 - Network Attached Storage Devices (NAS)
 - Drobo, WD ShareSpace, Iomega StorCenter, BlueArc
 - Storage Area Networks (SAN)
 - HP StorageWorks, IBM System Storage SAN, Dell Compellent, EMC Clariion, Netapp FAS
- Various Cloud backup solutions dominate
 - Gillware, eFolder, NetRescue, Iron Mountain



Other Interesting Options

- iTwin, www.itwin.com allows you to securely access your entire hard drive. It's as if you are carrying an access-key to all your files in a device that fits in the palm of your hand. And unlike portable storage, iTwin lets your data stay put safely at home (or in office).



iTwin Cost Around \$99 US

- Plug one half of iTwin into your online office computer.
- Drag'n'drop files into the iTwin window to share them.
- Take the other half of iTwin with you.
 - You will have instant access to all of the shared files, from any other online computer.
 - You can edit those files without them ever leaving the office.
 - You can copy them to the other computer.
 - You can even upload files to office from wherever you are.
- No configuration, no VPN token card, no login. With AES-256 hardware-enabled encryption.

Other Interesting Options

- Dane-Elec my-Ditto 2TB
 - Uses a USB token to connect back to main device.
 - Inexpensive, around \$250
 - A NAS for people who do not know what a NAS is.



Personal Cloud and SMB Backup? We Still Like the PogoPlug for Simplicity

- PogoPlug connects your external hard drives to the Internet so you have full access to your home content.
- Make your documents, videos, photos, music library accessible online, securely without uploading.
- \$99 - \$299



Not all businesses are headed to the cloud. Why not?

CLOUD OR FOG?

Cloud or Fog?

- For the last year or so, cloud computing has been one of the great promises of corporate IT, but so far there has been little evidence of ubiquitous adoption.
- Cloud computing is set to transform global IT. There have already been numerous reports to date looking at the future of cloud computing including the timelines for adoption and barriers to widespread uptake.

Cloud or Fog?

- Sixty-seven per cent of CIOs and CFOs questioned are either not planning to adopt cloud computing (35 per cent) or are unsure (32 per cent) of whether their company will adopt cloud computing during the next two years.
- Forty-six per cent of respondents feel the definitions of cloud computing remain unclear and 42 per cent of organizations are not considering investing in cloud computing in the next two years.

NTT Communications 2010 Study



Cloud or Fog?

- 45% of CIOs and CFOs interviewed said they believed cloud computing is not just hype.
- 44% of those businesses using or planning to use cloud computing said they expect to invest between 6-15% of their IT budgets on cloud computing in the next two years.
- 60% of respondents' companies were already looking to invest in web-based or Software as a Service (SaaS) solutions as part of their strategic IT plans.

Vanson Bourne Research, poll of 200 Chief Information Officers and Chief Finance Officers 2010



New Standard for Data Centers and Service Auditors, formerly in SAS 70

- In August, 2010 the AICPA issued SSAE No. 16, "Reporting on Controls at a Service Organization," which includes significant changes to the audit and attest standards related to service organizations. To assist you in understanding the new standard and its application, AICPA has published a new alert, Service Organizations: New Reporting Options.
- It provides an overview of the changes to Statement on Auditing Standards (SAS) No. 70, Service Organizations, (AICPA, Professional Standards, vol. 1, AU sec. 324), and alerts you to reporting options when examining controls at a service organization other than those relevant to financial reporting by user entities. In addition, it presents illustrative assertions by management as well as illustrative **service organization control (SOC)** reports.



Three Approaches for Cloud Computing

- Storing data for backup or collaboration.
 - Working, generally wide acceptance.
 - Keep data in the US, including the backup of the backup.
 - Make sure data is encrypted while at rest as well as in-motion.
 - Use reliable, well known, and audited providers.



Three Approaches for Cloud Computing

- "Hosting" Hosted Data Center or Private Cloud.
 - Virtualized Servers hosted in a certified SOC (formerly SAS 70) environment
 - Major/minor data centers such as Amazon
 - Access to traditional Windows applications via RDP or Virtual Desktops
 - Generally use a thick client or runs applications in a web browser
 - Single Sign on for all applications



Three Approaches for Cloud Computing

- Software as a Service (SaaS)
 - Still more bark than bite.
 - Mixing of true SaaS with Hosted Solutions
 - Most users may not know or care about the difference
 - Still a shortage of providers and options
 - Soft services such as CRM, Payroll, Payables, Receivables, POS and General Ledger posting and reporting are plentiful.
 - Hard services such as high-end inventory management and manufacturing do not seem to be in place yet.



Cloud or Fog?

- Bottom-line
 - Internet connectivity is main concern over all
 - Features and functionality are next, to include availability in the future
 - Security and Reliability is critical to .999999
 - Economic benefits?
 - Are you replacing the entire infrastructure?
 - Beyond five years, mixed reviews of economic benefits between in-house and Internet based resources.



Cloud or Fog?

- Forrester Research
 - In a paper called "The ROI of Software-As-A-Service: A Total Economic Impact Analysis Uncovers Long-Term Value in SaaS," Liz Herbert and Jon Erickson found that there, indeed, is long-term value.
 - To determine if and when SaaS should be adopted for a particular solution, Forrester has developed a Total Economic Impact model that looks at the benefits, cost (hard costs and resources) and risks of deployment.
 - Targeting larger companies, but worth a look if seriously considering a SaaS approach.



Social Networking in the Cloud

- Where are we Social Networking Wise?
 - By the time you read this either Facebook or Google may have acquired Twitter.
 - Facebook has to evolve or become irrelevant.
 - Hearsay launches tool to power corporate Facebook pages and companies strive to "Figure Social Networking out."



Business on Social Networking

- Social Networking in the Cloud?
 - Businesses are beginning to use SN tools to either eliminate, or augment traditional business web sites.
 - Some small businesses forgo a web site at all in favor of a SN site such on such foundations as Facebook.
 - Professional SN Clouds should arise in 2011 going forward, redefining how we engage our customers.



Social Networking > Virtual Worlds

- The next evolution of SN is into the Virtual Worlds.
- Virtual Worlds include places like Second Life, ActiveWorlds, www.activeworlds.com, and
- Club Cooee, <http://en.clubcooe.com/>



Pads, Tablets, Phones and more...

SMART DEVICES



Pads & Tablets

There are an estimated 80 different pad and tablet solutions on, or headed to market this year.

Some are just large phones, while others are simply small Netbooks.

With so many options to choose from, who are the winners and losers?



RIM Playbook



7" LCD display, 1024 x 600 screen resolution
1 GHz dual-core processor – 1 GB RAM
Multi-touch capacitive screen
Powerful, user-friendly QNX technology
Multi-processing for true multitasking
3G network access using your BlackBerry smartphone as a modem
4G network access available on BlackBerry 4G PlayBook™ tablet
Wi-Fi 802.11 a/b/g/n
Bluetooth® 2.1+EDR
Runs BlackBerry apps from BlackBerry App Store

[Pricing and Release Date to be set]



Samsung Galaxy Tab



- Sold via most broadband carriers
- Android 2.2 (Froyo)
- 7.48 x 4.74 x 0.47
- Front 1.3-megapixel camera
- Back 3-megapixel autofocus camera with an LED flash.
- \$250 with 2 year contract



Apple iPad 2



- [Reserved for details]



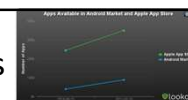
HP TouchPad



- October 2010 that HP introduced its first Windows-based, business-oriented tablet, the Slate 500.
- February 2011 HP announced the first fruit of its purchase of Palm, the TouchPad and two new cell phones.
- Runs WebOS from Palm, and Palm Apps.



Smart Phones



- The original and ultimate smart devices are the cellular phones we carry with us, which
- Are used less and less to make phone calls.
- Apple Apps Store, over 350,000 apps
- BlackBerry App Store, over 100,000 apps
- Android App Store, over 88,000 apps



Motorola Atrix



- What if your phone could be a laptop?
- Running Android 2.2 (Froyo) the Atrix is a phone with powerful accessories, including a Netbook-like dock that provides a full keyboard (almost,) display and more
- Phone \$200, Laptop Dock \$300, and
- Phone Doc \$190 – with 2 yr. contract.



Apple iPhone 5



- Retina Display
- Face Recognition
- In-built GPS
- New redesigned Sleeker body
- Wireless syncing with iTunes
- More carriers in addition to AT&T
- New Operating System (iOS 5)
- 4G network compatibility
- Higher resolution camera

- [Reserved for iPhone 5 detail when announced]

Android



- Phones with Android 2.2 (Froyo)
- Not all Android phone are equal
 - Don't let the advertisements fool you, check out the features carefully.
 - Not all phone providers offer upgrade to next Android OS because of their modifications.
- Android OS is a cloud based Internet OS, not all the functionality you would find in a PC OS.

Windows Phone 7



- We like the potential of this phone
- Great integration of favorite Windows apps
- Expect more options in phones this year, but Samsung has strong lead at the moment.
- Nokia said to be replacing aging Symbian OS with Windows Phone 7. Symbian site is gone.
 - This is a very big deal for MS, especially outside the US

BlackBerry

- The new Torch and Style are very popular with traditional BlackBerry users who like the physical keyboard option.
- Trying to catch up to other Smart Device manufacturers BlackBerry is pouring a lot of resources into its family of phones.



Microsoft
Office 365

Sharing with others – how we work

COLLABORATION

Office 365



- **Microsoft Office 365** brings together cloud versions of Microsoft's communications and collaboration products with the latest version of their desktop suite. Suitable for businesses of all sizes.
- The updated services include Exchange Online, SharePoint Online, Lync Online and a subscription service for Microsoft Office called Office Professional Plus.
- <http://office365.microsoft.com>



Office 365

- Office 365 is the name for the new cloud-based product suite from Microsoft, presumably as a direct attempt to take the fight to Google with its Google Docs, Mail and other services. Office 365 will replace the current product with its more cumbersome name, Microsoft Business Productivity Online Suite, and it's promised the new offering will be cheaper, too.



Office 365

- SharePoint Online which supports social networking features and has been nicknamed Facebook for enterprise. In fact, SharePoint does more as it includes an editor for Word, Excel and PowerPoint documents. The new online software enables collaboration with desktop versions of these Office programs.



Office 365

- Where the service excels is in its usefulness to smaller companies with no IT department. Sign up for the beta program for small businesses and benefits include access to your work email from devices with browsers, including iPhone, BlackBerry and Android phones.



Adobe Connect – Web Conferencing

- Adobe® Connect™ is an enterprise web conferencing solution for online meetings, eLearning, and webinars used by leading corporations and government agencies. And it's based on Adobe Flash® technology, so you can deliver rich interactions that participants can join easily.
- www.adobe.com – Test it out for free.



Video conferencing – Time for HD

- The leaders;
 - [LifeSize](#)
 - [TANDBERG](#)
 - [Cisco UML](#) and [TelePresence](#)
 - [Polycom](#)
- Not to mention less expensive ways
 - [Skype](#)
 - [Microsoft Lync](#) or [Lync Online](#)
 - [Oovoo](#)



HD Video Cameras Everywhere at 1080p+

- [Logitech HD Pro Webcam C910](#) - \$84
- Built into laptops
- Cell phones like the Samsung Instinct HD SPH-M850 (Sprint) which records videos in high definition (1,280x720).
- Nikon D90 Camera
- Flip [UltraHD](#)



All work and no play... What is the latest in home entertainment?

ENTERTAINMENT



Game Boxes

- Microsoft Xbox took the lead late 2010 with the release of Xbox 360 and the new Kinect.
 - More disk space, 250GB
 - Access to ESPN NFL, Netflix, Zune, and more services.
- Connects to your network to play media from any registered PC in the house.



Microsoft Xbox and Kinect

- Use Gestures to Play, Workout, Dance, have fun.
- Need lots of space!
- Kinect has been hacked and attached to PCs for lots of other applications.
- Similar technology to appear as TV and Audio remotes.
- Most fun ever!!! (Bob Spencer)

You are the controller!



Sony PS3



- First advantage most is having a Blu-ray player in the box. Xbox does not. If you have a Blu-ray anyway, no big deal.
- The controllers and game availability are very similar. The Kinect will draw a lot of attention away from the PS3, but PS3 3D games are cool.
- Sony is saying a PS4 is not due until late 2012.
- Which should you choose? What do your friends use? With Internet gaming, this is typically the tie breaker (at least according to sons, daughters, nieces and nephews.)



Wii 2

- Wii, thought to be behind the ball, may just surprise everyone.
- Due out in 2011.
- Expecting HD Output and a Blu-ray drive built-in (not in earlier version.)



What is IPTV?

- Internet Protocol Television (IPTV) is broadcast television that is delivered over a broadband connection like DSL.
- IPTV is available via your Internet Gateway provider.
- Make sure your service is not metered and that you are not charged additional for large video streaming.



IPTV – The End for Cable and Satellite?

- What happens when no one orders cable?
- Massive movement of cable subscribers to Internet TV among the under 40 crowd.
- IPTV is both services and hardware that allow you to access Video and Audio streaming of TV Shows, Movies, and Music to both TVs as well as Computers.
- A lot of it is free – moving quickly to subscription.



Boxee



- Boxee is a cross-platform freeware HTPC (Home Theater PC) software application. Download for your PC or Smart Device now.
- It is now marketed as firmware in a hardware box from D-Link (Boxee Box) and lomega (lomega TV) with more to come.
- Boxee is considered by many to be a work in progress, but still has strong market share and is the underdog many are rooting for.



lomega TV



- The lomega TV with Boxee combines the IPTV gathering capability of Boxee with a home media storage center.
- Up to 2GB of home storage should be enough to store your favorite movies and music.
- \$229 with no disk, \$299 for 1TB, \$349 with 2TB
- A little pricey, you could buy a 1TB drive and connect it to a Boxee Box from D-Link and come out with less cost.



Logitech Revue



- The Logitech Revue is driven by Google TV and has a rocky release as Google has had a tough time signing up subscription services like Sports, and major players that are competitors to Google.
- With Google, it is a great Internet Search box and works well for Social Networking – but there are better ways to do that.
- Best feature? The keyboard-like controller is awesome and much easier to use than the small Boxee Box controller.



Google TV

- Google, of course, has its own IPTV solution to compete against Boxee, Xbox, Apple and others.
- With Google Chrome and Adobe Flash Player 10.1, Google TV lets you access everything on the web. Watch your favorite web videos, view photos, play games, check fantasy scores, chat with friends, and do everything else you're accustomed to doing online.
- What Google TV lacks is subscriber networks that people want for sports, new movies, etc.



Apple TV

- The Apple TV's new low \$99 price makes it an easy impulse buy for Apple fans looking to bring Netflix into the living room, but you may want to wait until more content, or Apple's forthcoming AirPlay update, becomes available.
- Very limited selection of TV shows, especially compared with Amazon Video On Demand; confusion between what's available on Apple TV iTunes Store and PC-based iTunes store; doesn't support the full suite of media apps (Pandora, etc.) available on the iPhone and iPad; can't connect to older, pre-HDMI TVs.



TV Manufacturers' Options

- Pretty much every TV Manufacturer is releasing IPTV in their higher-end units.
- Short list;
 - Samsung
 - LG
 - Panasonic
- Most are limited initially, but if you want Netflix and watch ESPN or NFL, easy way to go.



Ultra High Definition TV (UHDTV)

- Experimental digital video format, currently proposed by NHK of Japan, the BBC, and RAI.
- 16 times the resolution of HDTV, release 2025.
- IMAX has roughly the same number of pixels as UHDTV.
- UHDTV is **4320p**, $7,680 \times 4,320 = 33,177,600$ pixels
- Expect more **4K**, $4,096 \times 3,072 = 12,582,912$ pixels, supported with a firmware upgrade in the Intel Core iSeries, used in Digital Film/Cinema



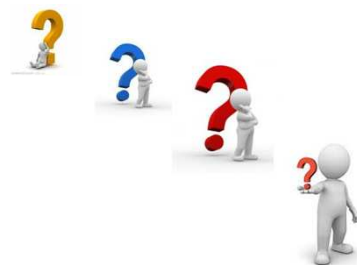
Is the DVD Medium Dead?

- One thing to take away from the IPTV discussion may be the end of optical media.
- We discussed last year that CD/DVD/Blu-ray drives would become optional in computers soon.
- Most have followed the end of Video Rental Chain stores. Red Box may survive awhile, but
- Internet streaming truly seems to be direction the world will take.



Content Providers

- Netflix
- Hulu
- ESPN
- ABC Content
- Comcast (NBC Universal Content)
- Others to follow.
- So what will happen?



THE END

